

Indian Standard

Reaffirmed - 2012

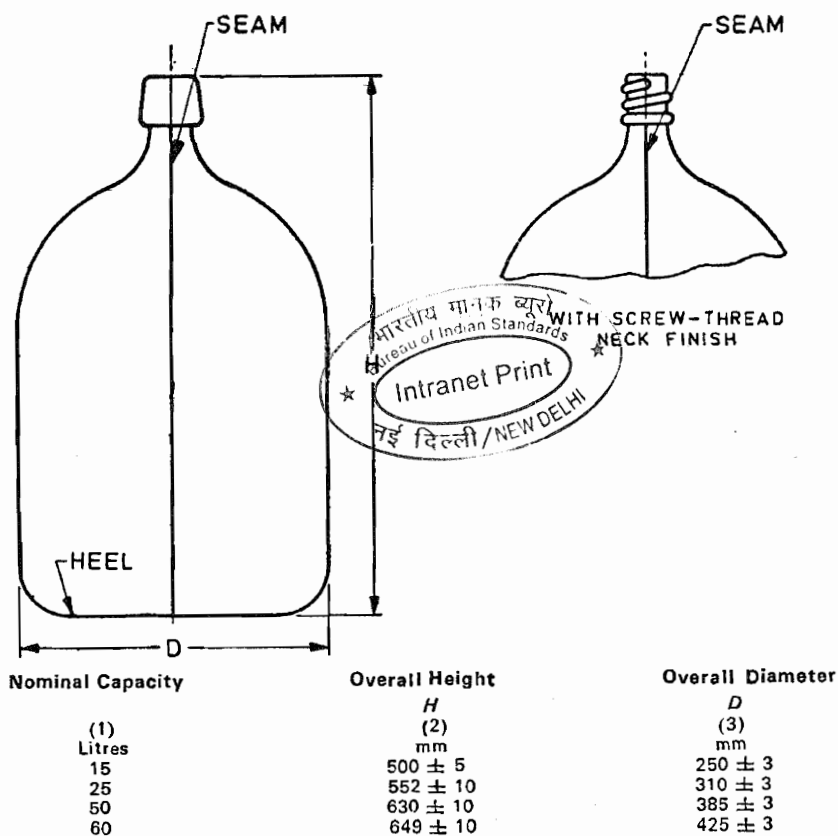
SPECIFICATION FOR GLASS CARBOYS

(Reaffirmed 2017)

(First Revision)

1. **Scope** — Prescribes the requirements for glass carboys.
2. **Terminology** — For the purpose of this standard, the definitions as given in IS : 1382 - 1981 'Glossary of terms relating to glass and glassware (first revision)' and IS : 6654 - 1982 'Glossary of terms relating to glass containers (first revision)' shall apply.
3. **Types** — The glass carboys shall be of the following two types:
 - a) Type A — Cylindrical, and
 - b) Type B — Pear-shaped.
4. **Nominal Capacity** — The glass carboys shall be of 15, 25, 50 and 60 litres nominal capacity.
5. **Dimensions** — The dimensions of glass carboys of type A and type B shall be as given in Tables 1 and 2 respectively.
6. **Material** — The glass carboys shall be manufactured from colourless or pale green glass having a smooth surface.

TABLE 1 DIMENSIONS OF CLASS CARBOYS, TYPE A
(Clause 5)



Adopted 26 November 1986

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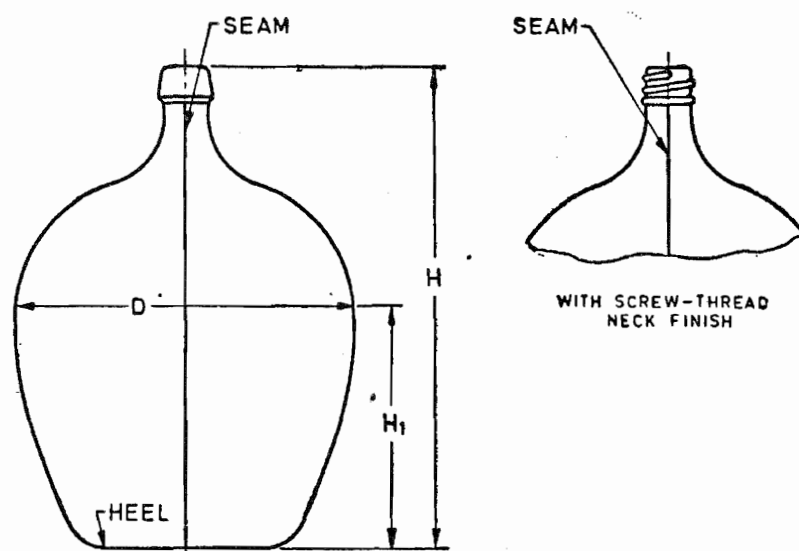
Gr 2

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

MAX. RETAIL PRICE
ALL TAXES
\$130.

TABLE 2 DIMENSIONS OF GLASS CARBOYS, TYPE B

(Clause 5)



Nominal Capacity	Overall Height	Overall Diameter	Height at Maximum Overall Diameter
(1)	H	D	H ₁
Litres	mm	mm	mm
15	450 ± 5	295 ± 3	203
25	495 ± 5	354 ± 3	241
50	595 ± 10	440 ± 3	298
60	630 ± 10	464 ± 3	315

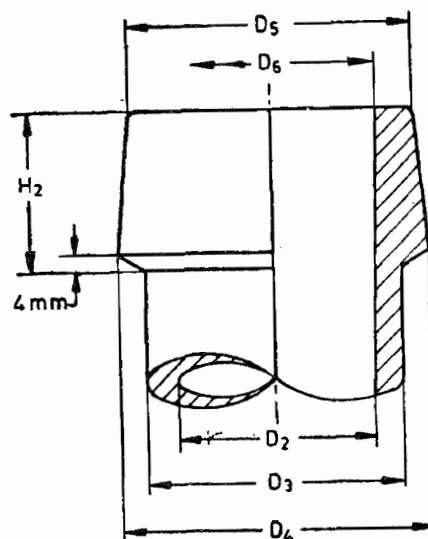
7. Brimful Capacity and Mass — The brimful capacity and mass of the glass carboys shall be as given below :

Nominal Capacity Litres	Brimful Capacity Litres	Mass, Max	
		Type A	Type B
		kg	kg
15	16 ± 0.50	4.9	3.4
25	27 ± 0.50	5.5	4.7
50	53 ± 0.75	8.5	7.4
60	64 ± 0.75	10.3	8.5

8. Neck Finish — The glass carboys shall be provided with the following finishes:

- Non-screw thread type as given in Table 3; and
- Screw thread type as given in Table 4.

TABLE 3 DIMENSIONS FOR NON-SCREW THREAD FINISH
(Clause 8)



Nominal Capacity	D_1^*	D_2	D_3	D_4	D_5	D_6	H_1
	+0 -2			+3 -0	+3 -0	+0 -2	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Litres	mm	mm	mm	mm	mm	mm	mm
15	35	49	59	53.4	38.0	32	
25	40	55	67	59.8	43.5	35	
50	50	65	79	71.8	54.0	40	
60	50	65	79	71.8	54.0	40	

*Through-bore diameter.

TABLE 4 DIMENSIONS FOR SCREW THREAD FINISH
(Clause 8)

Nominal Capacity	Size of Finish*
(1)	(2)
Litres	
15	43
25	51
50	63
60	63

*Shall conform to shallow continuous thread finishes (R3) of IS : 7511 (Part 1) - 1986 'Dimensions for neck finish: Part 1 Shallow containers thread finish.

9. General Requirements

9.1 The glass carboys shall be well annealed, free from cracks and reasonably free from stones, blisters, air-bubbles, cords, mould marks, chill marks and other visual defects.

9.2 *Alkalinity* — The glass carboys when graded according to the method prescribed in IS : 2303-1965 'Methods of grading glass for alkalinity' shall conform to type 3 of glass.

10. Tests

10.1 Hydrostatic Pressure Test — The glass carboys shall pass the test prescribed in Appendix A.

Note — Glass carboys subjected to this test shall not be put into service or other tests.

10.2 Impact Test — Each glass carboy shall be struck four times successively in the same place at the following points with a steel ball of 400 g falling through a distance of 10 cm:

- a) on both seams,
- b) at extremities of a diameter at right angles to the joining seams, and
- c) at the thinnest part of the heel as shown in the figure in Tables 1 and 2.

10.3 Thermal Shock Test — The glass carboys shall pass the thermal shock test when tested according to IS : 11930-1986* 'Method of thermal shock tests for glass containers'. The temperature differential ($t_1 - t_2$) shall be 43°C.

11. Packing and Marking

11.1 Packing — The glass carboys shall be packed as agreed to between the purchaser and the supplier.

11.2 Marking — The glass carboys shall be marked with the manufacturer's name or trade-mark.

11.3 Certification Marking — Details available with the Bureau of Indian Standards.

APPENDIX A

(Clause 10.1)

HYDROSTATIC PRESSURE TEST

A-0. Outline of the Method

A-0.1 Carboys are filled with water at ambient temperature and subjected to hydrostatic pressure.

A-1. Apparatus

A-1.1 A suitable apparatus shall conform to the following:

A-1.1.1 The carboy to be tested shall be held by a split collar of such a design that the carboy is not clamped but is suspended from the bead of the finish.

A-1.1.2 A seal shall be provided which shall be water-tight at the pressure to be applied.

A-1.1.3 An automatically controlled timing device shall be built into the apparatus so that the time of application of pressure may be controlled to 1 minute \pm 1 second.

A-2. Procedure

A-2.1 Fill the carboy with water at ambient temperature. Hold it by the split collar and apply seal. Apply a pressure of 200 N/cm² (20 kgf/cm²) and release it automatically at the end of one minute.

A-2.1.1 The carboy shall be considered to pass the test if it withstands the pressure without any damage.

EXPLANATORY NOTE

This standard deals with cylindrical and pear-shaped glass carboys of capacities ranging from 15 to 60 litres and capable of taking rubber stoppers and screw closures. With a view to ensuring suitability of glass carboys for storing liquids, methods of test have been prescribed for checking their weak spots, capacity to withstand thermal shock and hydrostatic pressure. This standard, however, does not deal with hampers used for holding carboys in storage and transport for safety against damage.

This standard was first issued in 1970 and re-affirmed in 1978. The present revision of the standard has been taken to bring the standard in line with the current manufacturing practices. The procedure for thermal shock resistance test has been deleted and a reference has been made to the separate standard available on the subject. Also sampling and criteria for conformity have been deleted and it is proposed to make reference to the Indian Standard on sampling at a later stage when the standard on the sampling plan is available.

**AMENDMENT NO. 1 JULY 2007
TO
IS 5715 : 1986 SPECIFICATION FOR
GLASS CARBOYS**

(First Revision)

(Page 3, clause 9.2) — Substitute the following for the existing clause:

“9.2 Limit of Alkalinity — When graded according to the method prescribed in IS 2303 (Part 1/Sec 1) : 1994 ‘Grading glass for alkalinity : Part 1 Hydrolytic resistance, Section 1 Hydrolytic resistance of glass grains at 98°C – Method of test and classification (*first revision*)’, the glass carboys shall conform to Class HGB 3 of the glass.”

(Page 4, clause 11.3) — Substitute the following for the existing clause:

“11.3 BIS Certification Mark

The glass carboys may also be marked with the Standard Mark.

11.3.1 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.”

(CHD 10)